



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,530	08/07/2001	Lawrence D. Bergman	YOR920000742US1	2121
7590	09/08/2006			
Ryan, Mason & Lewis, LLP 90 Forest Avenue Locust Valley, NY 11560			EXAMINER TO, BAOQUOC N	
			ART UNIT 2162	PAPER NUMBER

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/923,530	BERGMAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Baoquoc N. To	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06/26/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Claims 1-49 are pending in this application.

#### ***Response to Amendment***

2. The DECLARATION OF PRIOR INVENTION filed on 09/19/2005 under 37 CFR 1.131 has been considered but is ineffective to overcome the Acharya reference.

After reviewing the inventor declaration, the conception have been established by the exhibit 2 which discloses substantially the same before or on about 01/02/2001.

Upon further reviewing Attorney affidavit and all remainder corresponding exhibits, there is no evidence in the exhibit, which indicates that IBM instructs the preparation of this application prior the March 23, 2001 effective filing date of the Acharya.

A. In paragraph 2 of the Inventor Declaration which indicates "an IBM disclosure document entitled "indexing Method For Queries Using Multiple Positive and Negative Examples" for preparation of the a related patent application" not for the current application (09/923530).

B. In paragraph 4 of the Inventor Declaration only indicates that "a draft application and relative figures for the invention that is the subject of the present application to the inventor's attorney at the law firm of Ryan, Mason & Lewis, LLP, to assist in the preparation of the related patent application. The accompanying letter, dated January 2,2001, from inventor Vittorio Castelli, and the draft patent application are attached here as to Exhibit 2". Once again, there is no evidence or indication that

Art Unit: 2162

IBM instructs the law firm of Ryan, Mason & Lewis, LLP or attorney William E. Levis to prepare current application (09/923530).

C. In paragraph 2 of the Attorney affidavit and all remainder corresponding exhibits, there is no evidence which consistently shows that the attorney working reasonably hard on completing a draft patent application for the above-referenced to U.S. patent application for the period of March 22nd, 2001 to July 23, 2001 effective filing date of the Acharya March 23, 2001 in paragraph 2 on the Attorney Affidavit. On the other hand, there are evidences consistently to support for the period from July 23 to August 7, 2001 by the exhibits. Reference to In re Nelson, 164 USPQ 458 (CCPA 1970) "accordingly, reasonable diligence is tested with respect to the period from December 1961 to July 2, 1962, appellant's date of construction reduction to practice. neither the affidavits nor the supporting exhibits indicate what was happening with respect to perphenazine during this period from December to February. While constant effort is not required, the record before us does not give any reason whatever to explain the delay, and we will not speculate on possible explanations. The evidence is insufficient to show even a tentative consideration of perphenazine during the two-month period. For these reasons, we cannot say that the board erred in finding an insufficient showing of reasonable diligence."

Therefore, The DECLARATION OF PRIOR INVENTION filed on 09/29/2005 under 37 CFR 1.131 has been considered but is ineffective to overcome the Acharya reference.

***Response to Arguments***

3. Applicant's arguments filed 06/26/2006 have been fully considered but they are not persuasive.

Applicant argues "applicant notes the examiner fails to provide any basis for the rejection of claim 1-49 in the latest Office action. Further, although the examiner indicated that the claims included allowable subject matter in a telephone interview with applicants' attorney on December 6, 2005, there is no indication of allowable subject matter in the latest Office Action."

The office action is included in this communication. After reviewing the subject matter in the last previous office action; however, the examiner is not able to identify allowable subject matter over the cited reference.

Applicant argues "it is clear that the instructions were sent for preparation of the current application, and that "the related patent application" is the "current application."

The examiner respectfully disagrees with the above argument. As disclosed in paragraph 2 and 4 of the inventor declaration, the preparation of a related patent application is not the current application, even though, the accompanying letter, dated October 30, 2000 including attorney docket number YOR920000742US1 in which corresponding to attorney docket number YOR920000742US1 for the reason, this accompanying letter could help to prepare a related application for example co-pending to related to the current application not the current (09/923,530). Since the declaration does not state the preparation of the patent application (09/923,530) accompanying with

Art Unit: 2162

accompany letter dated October 30,2000 exhibit 1 and only to assist in the preparation of the related patent application with the accompany letter, dated January 2 2001 in exhibit 2. Therefore, without specific statements and facts or supports, the declaration is insufficient to overcome Acharya reference.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya et al. (US. Patent No. 01/20/2004).

Regarding on claims 1, 25 and 49, Acharya teaches a computer-based method of retrieving one or more items from at least one database in response to a query specified by a user via at least one example set, the method comprising the steps of:

Constructing a scoring function from the at least one example set, wherein the scoring function is operable for use with a multidimensional indexing structure associated with the at least one database (col. 7, lines 11-15); and

Retrieving (selecting), via the multidimensional indexing structure, the one or more database items (images) that have the highest score as computed using the scoring function (col. 6, lines 36-40).

Acharya does not explicitly teach scoring function is operable for use with a multidimensional indexing structure associated with the at least one database. However, Acharya teaches "for very large database, computing distance from the query image 30q to all other image 30 in the database 40 may take substantial time. Thus, ranking and, in turn, retrieval, may be undesirably slow. To obviate the problem, multi-dimensional search techniques may be employed to retrieve a subset of image lying in the neighborhood of the query image 30q in the feature space" (col. 7, lines 46-52). In addition, Acharya discloses in the abstract "a variance-covariance matrix is calculated for all images in the database" (abstract lines 4-5). The suggestion of calculation of the images in the database and the multidimensional search method that allow the examiner come to the conclusion of the claimed limitation as indicates above. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to include the calculation of images which uses to index the images in the multidimensional in order to allow the efficient search or retrieval method.

Regarding on claims 2 and 26, Acharya teaches the scoring function is constructed from multiple example sets wherein the multiple sets comprise at least one of positive example sets and negative example sets (col. 7, lines 10-15)).

Regarding on claims 3 and 27, Acharya teaches the scoring function (compute the Mahalanobis distance between image 30q) is constructed by combining respective scoring function of the multiple example sets (col. 7, lines 10-15).

Regarding on claims 4 and 28, Acharya teaches combining the scoring functions of the positive example sets and the negative sets comprises the steps of:

Modifying the scoring functions of the positive example sets and the negative example sets so that the scoring functions of the positive example sets assign low scores to representative examples of the negative example sets, and so that the scoring functions of the negative example sets again low scores to representative samples of the positive example sets (col. 6, lines 50-67); and

Combining the modified scoring functions of the positive example sets and the negative example sets (col. 6, lines 50-67).

Regarding on claims 5 and 29, Archarya teaches the scoring function assign a score to an element of a search space associated with the at least one database equal to the minimum of: (1) the maximum of the scores assigned to the element by the scoring functions of the positive example sets (col. 6, lines 50-67); and (ii) the minimum of one minus the scores assigned to the element by the scoring functions of the negative example sets (col. 6, lines 50-67).

Regarding on claims 6 and 30, Acharya teaches the scoring function give higher scores to database items that are more closely related to the query than to the database items that are not as closely related to the query (col. 7, lines 30-39).



Regarding on claims 7 and 31, Acharya teaches a scoring function is obtained for the at least one example set by:

Computing a characteristic example from the at least one example set (col. 7, lines 10-15);

Computing a dispersion characterization of the at least one example set in association with the characteristic example (col. 7, lines 10-15); and

Using the characteristic example, the dispersion characterization, and one or more samples from the database to compute the scoring function (col. 7, lines 10-15).

Regarding on claims 8 and 32, Acharya teaches the characteristic example is a centroid, a median, or a node computed over at least a portion of the example set (col. 7, lines 10-15).

Regarding on claims 9 and 33, Acharya teaches the dispersion characterization associated with the example set comprises a covariance matrix, a standard deviation, central moments, order statistic of differences, or third moments capturing asymmetry (col. 7, lines 10-17).

Regarding on claims 10 and 34, Acharya teaches the step of using the characteristic example, the dispersion characterization, and one or more samples from the database to compute the scoring function further comprises computing weight distances between the characteristic example and the one or more samples from the database using the dispersion characterization to compute weights (col. 7, lines 10-15).

Regarding on claims 11 and 35, Acharya teaches weighted distances are Euclidean distances or Minkowsky distances (col. 7, lines 10-15).

Regarding on claims 12 and 36, Acharya teaches a scoring function is computed for the at least one example set by converting one or more semi-metrics obtained using the at least one example set to one or more scores using a conversion function (col. 7, lines 10-15).

Regarding on claims 13 and 37, Acharya teaches the semi-metrics are weighted Minkowsky distances from a representative samples in the at least one example set, and further wherein weights are calculated using the examples in the at least one example set (col. 7, lines 10-15).

Regarding on claims 14 and 38, Acharya teaches weights are the inverse of standard deviations of the examples in the at least one example set (col. 7, lines 10-15).

Regarding on claims 15 and 39, Acharya teaches the representative sample is a centroid of the examples in the at least one example set (col. 7, lines 10-15).

Regarding on claims 16 and 40, Acharya teaches the conversion function is monotonically non-increasing continuous function having a value equal to one at the origin and a value of zero at infinity (col. 7, lines 10-15).

Regarding on claims 17 and 41, Acharya teaches conversion function is a monotonically non-increasing continuous function having a value of one between zero and a first threshold value and a value of zero after a second threshold value (col. 7, lines 10-15).

Regarding on claims 18 and 42, Acharya teaches the user specifies the number of items to retrieve from the database (col. 8, lines 9-26).

Regarding on claims 19 and 43, Acharya teaches the retrieving step further comprises the step of searching the multidimensional indexing structure to retrieve from the database the items having the highest score (col. 7, lines 45-55).

Regarding on claims 20 and 44, Acharya teaches the multidimensional indexing structure is used to execute different queries (col. 7, lines 45-55).

Regarding on claims 21 and 45, Acharya teaches the multidimensional indexing structure is abased on a recursive partition of a search space associated with the database using hyperlanes parallel to coordinate axes or surfaces other than hyperlanes parallel to coordinate axes (col. 7, lines 10-15).

Regarding on claims 22 and 46, Acharya teaches searching the multidimensional indexing structure comprises the steps of:

Using scoring functions of the multiple example sets to search a tree to identify candidate nodes (col. 7, lines 45-55); and

Using the scoring functions of the multiple example sets to score items stored at leaves of the multidimensional indexing structure (col. 7, lines 45-55).

Regarding on claims 23 and 47, Acharya teaches identifying candidate nodes comprises the steps of:

Computing for each scoring function of the positive example set, the maximum possible score of an item stored at the node or at one of the descendants of the node (col. 7, lines 10-15);

Computing the maximum of the maximum scores (col. 7, lines 10-15);

computing for each scoring function of the negative example sets, the minimum possible score of an item stored at the node or at one of the descendant of the node (col. 8, lines 14-25);

computing the minimum of: (i) the maximum of the maximum score; and (ii) the minimum of one minus the minimum scores (col. 8, lines 14-25);

declaring that a node is a candidate if the minimum is not smaller than the minimum of the scores in the current result set (col. 8, lines 14-25); and

declaring that the node is not a candidate otherwise (col. 8, lines 14-25).

Regarding on claims 24 and 48, Acharya teaches the search is performed by using the scoring functions of the negative example sets (col. 7, lines 55-63).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2162

**Contact Information**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks


Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(571) –273-8300 [Official Communication]

BQ To

September 4th, 2006

  
JEAN M. CORNIELUS  
PRIMARY EXAMINER